Version 4.003.0015
November 2, 2010
- Added native iPhone and iPad socket support
- Improved TCP Client and Server Connectivity
- Improved Ethernet performance
- (IM RX only) Resolved issue with the balance command not sending out the proper values.
- (IM RX only) Resolved the issue with the audio dropping out in the MIC ONLY mode.
- Resolved the issue with the MICONLY mode during POWER ON
- Changed so that processors with DHCP on by default will autogenerate a hostname during a RESTORE.
- [IM RX Only] Resolve issue with the MIC Audio getting dropped when we switch off the system
- [IM RX Only] Resolve issue with the DAC settings not getting stored across reboots and when we update from the 3.x line.
- [IM RX Only] Reset the default volume to be 95%

Version 4.001.1012
February 17, 2009

INCLUDES CHV-TSTATRF Firmware version 1.005.0006. This upgrade is required to fix an incompatibility issue with 1.005.0005 and the 4.1.1012 processor firmware.

- [IM RX Only] Added the MASTERVOLUME command to the IM RMV-M line.
- [DIN-AP2, MPC-xx, IPAC Only] Protect against cross platform firmware loads; Please be aware that after loading 4.001.1011, only newer firmware versions for the appropriate platform can be loaded. If a downgrade is necessary, please follow the instructions for loading firmware from the System Monitor in the 2-series reference guide.
- [IM RX Only] Fixed a bug where the relays would momentarily close at power-up.
- Increased UDP data load to 1500 Bytes.
- Disabled TCP Slow start algorithm to optimize Crestron Update Request protocol.
- Cleaned up NVRAMREBOOT SHOW output when no reboot has occurred.
- [PAC2M, DIN-AP2 Only] Updated code to accommodate two more external memory cards. SC Version 2 compliant and MMC version 4 compliant.
- Added the command SPLUSMEMSIZE to adjust the amount of RAM allocated for SIMPL+ compiled code.
- [IPAC, MPC-xx Only] Corrected a situation where the buttons would stop reporting.
- Now limit the name field in the SNMPMANAGER command to 32 characters.
- Added code to prevent software watchdog reboots when using the WAVEDUMP command.
- [AMS Only] Updated the fan control for the AMS and AMS-AIP
- Fixed a reboot in SPLUSTASKS command if issued when the program was stopped or no program was running.
- Fixed a problem with SendMailAdvance() where the order of the arguments was wrong.
- Cleaned up extraneous data at the end of serial data sent to the SNMP manager. i.e. if "1234" was sent and then "56", the second string would appear as "5634".
- [IM RX Only] Resolved the issue with the IM RX video glitching if we were to tap the transmitter with the video cable.
- Improved performance with TPMC4X-G devices.
- SHOWEXTRA command now also logs notices when the program is paused, and resumed
- Fixed reading file opened for read/write access.
- Better protection for accessing the real-time clock.
- Fixed issue where the activity manager never fired on a 1 way transmitter.
- [AADS Only] Changes to the XMStack to support 20 AM presets also.
- Resolved the issue with the CF where after a format, the free space returns 0 while the whole space is listed as reclaimable.
- Resolved the issue where SSL is enabled but the user does not pass in either

the user name or the password which would cause a crash.
- Fix issue with out of bounds parameter access reporting the 0 based index rather than 1 based (i.e. declaring xyz[5] and accessing xyz[0] will report index=-1, bounds=4 rather than index=0, bounds=5)
- Resolved the issue with the memory corruption found with the C2VEQ4 driver. This would cause processors with these cards reboot after some period of time'
- Fixed the PAC2 hub so that it will not revert to the backup Cresnet when a large program was restarted.
- Resolved the issue where Direct Sockets would reboot the controller if Ethernet was not enabled.
- Resolved the issue with the MPS IR where a single PULSE could be repeated multiple times.
- Add "-I:" parameter to IPTABLE command so a specific IP ID can be queried in the table.
- Added new console commands to set the DHCP Discover option to be either HOSTNAME or the FQDN. Also for the FQDN added an option whether we want to send out the domain name or not. The default option is the hostname
- [IM RX Only] Added debouncing for the volume going to 0 on the IM
- [IM RX Only] Resolved the issue on the IM Rx with the audio just dropping out.
- Add changes for not writing the domain name to the EEPROM when we are in the DHCP Mode and we get the domain name from the DHCP server.
- Modified the printing of the domain name.   EEPROM command prints the value stored in EEPROM   ESTATUS prints out the current domain name.
- Corrected an error where the ID printed in the "timeout timeout" message was in decimal not hex.
- Added compatibility with Loriat for accessing the interface table.
- Corrected issue with initialization of string parameter arrays where if the SIMPL symbol wasn't sized to the max # elements in the array, you would get an error for each access beyond the end of the symbol wrapper, i.e. "Error: Module S-1 : S2_mult_serial_send at line 1001: Parameter Array overflow, Index
- [IM RX Only] Fixed composite video issue found in 4.000.0226.
- Corrected lost button releases for transmitters on 1 Way Gateways under heavy system load conditions.
- Improved EISC stability.
- Fixed an issue where connecting with the SysInfo page of the Toolbox while the program was starting up would cause the program to operate incorrectly.
- [MC2W Only] Fixed a problem on an MC2W where the RF gateway is unresponsive once we restart the program
- Fixed a problem with any plug in cards not working (Rx not working on the C2COM3 card) once we exit the PASSTO mode (i.e. loading a TPS touchpanel over Cresnet)

Build: 4.000.0226
January 20, 2006
- Added support for SNMP v1,v2 and v3.
- Added support for SIMPL+ direct socket access.
- Added support for SIMPL+ dynamic arrays and strings.
- Added support for SIMPL+ functions for managing Ramp Control Blocks (RCBs)
- Added multicast and broadcast receive functionality.
- Added Ethernet watchdog, which improves overall Ethernet performance on busier networks.

- Fixed an issue where the BUFFER_INPUT overflows in SIMPL+ were not flagged as errors. This change may cause errors to be generated in programs that previously had none.
- Extended SIMPL+ Memory on Pro2, MP2, QMRMC(RX) lines.
- Fixed and added several console commands, please refer to new 2-series reference guide.
- Fixed an issue that occurred when sending data to a UDP device after it was disabled.
- Fixed the cause of the error message "Could not obtain TxMutex(-51)".
- Resolved several Update Request issues.
- Now display a message to the front panel of OOTBF processors when the

program is bypassed.
- Change the DHCP retry task so that it will immediately retry on the first
failure so that if the DHCP request fails because of an IP conflict, we do
not wait for 15 minutes.
- Improved Ethernet Autodiscovery protocol to be more robust.
- Changed the printing of dots at program startup to indicate logic waves with
the "~" character.
- Improved Serial communications between control system and Toolbox
- Removed the RS232 status from the WHO and SHOWHW commands for those systems
that cannot detect the RS232 levels at the serial console.
- Fixed an issue were the COPYFILE and MOVEFILE commands did not work for
filenames with spaces.
- Fixed a problem with the XSIG symbol where the output TX$ could overflow
the internal buffer and the serial input would get cut off.
- Fixed a problem with the Serial Demultiplexor (Special) symbol where its
doesn't obey the string header. It will pass any string even if the header is
wrong. Also, if the received string has a string ID that doesn't match the
parameter list of the SMRX, an error is generated (as it should) but no
further string inputs work (the generate errors).

Known Issues:
- When using STRING_PARAMETER arrays, the SIMPL Windows side should be fully
expanded. The unused parameters can be set to an empty string - i.e. "" - and
the output can be set to the signal name "//" (no quotes). If this is not
done, the control system will issue errors at startup for each output that is
not on the SIMPL symbol. i.e. if you declare STRING_PARAMETER Name[5][10],
and only use 2 of them in the SIMPL Symbol, you will get 3 errors at startup.
The errors reference an invalid index. The errors are cosmetic and can be
ignored; they do not cause any system issues. However, other legitimate
system error messages may scroll out of the log, so it is suggested to perform
the above workaround.

Build: 3.155.1240
February 13, 2007
- Implemented the new US DST schedule for clock driver symbols with the format
=1d. Also added a console command OLDUSDST which can be use to revert back to
the old schedule if a particular region is not following the new schedule or
the law changes back.
- Modified the DHCP operation to handle IP conflicts in a more timely manner.
- Fixed a crash introduced in 3.155.1143 when using SIMPL+ EVENT statements.
Known issue
- Control system will reboot if you issue the WHO console command with no Ethernet.

Build: 3.155.1143
June 20, 2006
- Support for the APADs.
- Support for Unicode symbol.
- Added a new status DNS_RESOLVED to the IPTABLE status field. Indicates that
the name has been resolved but the device has not been reached.
- Fixed several memory leaks.
- Changed gateway node keep-alive so that the timer is reset for transmits as
well as received from the device.
- Increase the available memory for compiled SIMPL+ code from 1M Byte to 2M
Bytes.
- Added a line to the INFO command to indicate the amount of memory allocated
for SIMPL+ compiled code.
- Removed the restriction on the TYPE command for files greater than 20 KBytes.
- Fixed a bug where packets written to the TMPC-10 panels could be corrupted.
This caused the panel to reboot.
- Added FORMAT command to format a compact flash card

- Modified the offline extender for Ethernet panels so that it is no longer
necessary to write data to the device to determine that it is offline.
- Modified the output of the WHO command to display the amount of time
each device was connected.
- Added the total number of errors logged and display this at the end of the
error log report. This is to indicate whether any errors have rolled off the
beginning of the log.
- Fixed control system lockups and crashes experienced using TPMC-10 panels.
- Fixed a problem where the system would reboot when processing the ESTATUS
command while receiving Ethernet traffic.
- Fixed a lockup seen when restarting a program from compact flash.
- Fixed a problem with indirect text when using indirect text append symbol
with Mode 0 (standard mode) where 2 extra characters would show up before the
text (a "garbage" character and a zero). This would happen with XPanel &
older TPS panels.
- Fixed a problem that made Toolbox believe that compact flash was available
even though it was not properly initialized (media insertion error).
- Fixed a problem where multiple concurrent file writes to NVRAMDISK would
cause the processor to reboot and corrupt the NVRAMDISK. Also fixed a problem
where the NVRAMDISK could be corrupted during program restarts.
- Improvements to the EISC symbol to increase the number of signals that can
be handled (1000 digitals, 1000 analogs, 1000 serials).
- Fixed CIP OFFLINE messages for CIP devices (EISCs, Ethernet slave
processors, etc).
- Fixed SIMPL+ Precision width specifiers for strings, i.e. %25s (right
justified field; padded with leading spaces), %-25s (left justification,
padded with trailing spaces).
- If a slave device is not registered (i.e. there is no IP table entry
matching the program), skip printing error messages when trying to send data
about "no pipe exists".
- Changed IP table status so that the Node type field of an IP table entry
reverts to "NOT REG" when a program is stopped.
- Fixed Serial IR mode 7 bit character generation.
- Fixed crash with SIMPL+ WAIT() and DELAY() statements when the time
parameter was > 429496.
- Fixed "Slave Pipe" errors when the device wasn't registered, goes offline (&
the master is rebooted), or the configuration failed for some reason.
- Added LISTINS from user programs.
- Added option "-L" to CLEARERR to only clear the LED (i.e. "CLEARERR -L").
This will turn off the LED but still leave the errors in the log for later
retrieval.
- Activity detection helper now works with UPX-2 and TPMC panels and TSTATs.
- Added the VNVRAMCLEAR command to clear the NVRAM without a confirmation
step. This is designed to be utilized from a program
- Change the Clockdriver symbol to check for multiple non-zero DST drivers.
Only uses the first non-zero value.
- Fixed a crash when heavy ramping activity was done through the ABUFFER
symbol.
- Fixed a crash in Super Debugger that occurred when turning debug on/off for
Slots or Ethernet.
- Fixed problem when processing the serial data from an C2N-TXM when no digital
outputs were defined on the C2N-TXM device symbol.
- Fixed a problem on with RCBs where on occasion a signal would "stick".
- Fixed a bug in the Analog Increment symbol where if LowerLimit was > 0, and
Increment was <= LowerLimit, and UP was held, the symbol would go to the
LowerLimit and stay there. You would have to release UP and press it again to
get it to repeat.
- Fixed a crash that occasionally happened when using the SIMPL+
CancelAllWait() function.
- Added a limit to the size of the error log on CF. This was to avoid the
large delay that could occur when writing to the end of the large error log.
Type "CFLOGERR ?" for help on the new options.
- Corrected a bug in the Cresnet offline manager.

- Added console command GMTOFFSET to set the offset from Greenwich Mean Time. This setting will be stored non-volatilely. Also added two SIMPL+ functions, GetGmtOffset(), SetGmtOffset() functions.
- Added new format to Clockdriver symbol. Format 6d - Australia, (Lord Howe Island, New South Wales, South Australia, Victoria, Australian Capital Territory) - Last Sunday in Oct to Last Sunday in March.
- Put proper GMT offset on outbound mail time, using the EEPROM stored value from the GMTOFFSET command. Note that when upgrading systems that did not have this setting, GMTOFFSET is init'd to 0 (anyone on the East Coast USA will report that their GMT offset isn't functioning anymore unless they set this; it used to be hardcoded to EST).
- Revised Super Debugger to accept dotted notation for an address & allow Alpha's, i.e:
    sdebug -DON C0x25.A
        Would mean turn on debugging for Cresnet ID 0x25 Port A.
Alternatively
    sdebug -DON S9.0x25.A
        in a Pro2 model would mean Slot 9, ID 0x25 beneath is, Port A beneath
        that (Cresnet ID 0x25, Port A).
- Fixed a bug in handling CNWP-xx panels.
- Fixed a bug where a SIMPL+ pulse statement with a 0 time caused a reboot. It now causes a logic wave pulse and generates a warning to the error log.
- Fixed front panel extenders for Rack2.
- Fixed a bug in SendMail() where the processor would crash when CC field was blank.
- Fixed a bug where the SIMPL+ RetimeWait() function would cause a crash if the wait specified did not exist.
- Fixed XSIG encoding to handle embedded \xFF in strings.
- Fixed a problem where the Pac2 hub segments were not independent. A short on one leg would bring the whole hub down.
- Changed XSIG receive: If an empty string is received, it is now propagated to logic.
- Changed "Prev" "Next" buttons on error log screen to "First" and "Last" to faciliate jumping to the top/bottom of the log. The up and down buttons on the right side (between menu & backlight) still function to scroll one line at a time.
- Added analog signals to the Mouse symbol for X & Y axis for same coordinates as MS Mouse (-127 to +127).
- Changed the SDPM symbol to check ranges on the NET ID value (03 to FF). This fixes errors occasionally seen with the Crestron password module.
- Modified the TimeOffset symbol to prevent symbol from doing anything with the outputs until all 3 inputs have settled. This means that if you want either the hours to be zero (i.e. 12AM) or the minutes to be zero, then you must INIT the values to 0 rather than simply tie a 0 to the analogs.
- Slave control systems handle bursts of traffic better.
- Use new version reporting scheme major.minor.build number.

Known issue
- CT-1000 or LC-1000 firmware v6.203.0 clock object stops after restarting SIMPL program Must reboot CT/LC-1000 panel for clock to run.

Build: 3.137(Release)
Sept 3, 2004
- Initial implementation of the UPX-2 full model.
- Initial implementation of the TPMC-10 full model.
- New symbols (Requires Library Update >= 304):
        Double Precision Init
        Astroclock with Enable Input & Enabled Output
        Time Offset with Enable Input
        Stepper with Progress & Cancel.
- New device extenders (Requires Library Update >= 304):

Activity Detection Device Extender: Activity output now triggers on analog, digital, and serial activity. Join #'s below 17000 trigger activity; joins 17000 and greater do not (as they are treated as reserved joins).

- Alter permanent String handling: A permanent string now requires a size. If the string ever attempts to grow beyond the size, an error is printed and logged to the error log. Also, if a string is tied to multiple Make String Permanent symbols, the size of the last Make String Permanent is used for that particular string. A size of zero is disregarded if a previous size had been assigned to that string. If a string is tied ONLY to the original style Make String Permanent (no size given), it will behave identical to old CUZ's.
- Fixed a bug where two EISCs would have one way communications when rebooted in close succession.
- Fixed a bug where a gateway connection would have one way communication with the control system after an abnormal network termination (LAN cable unplugged, in/out of WiFi range)
- Corrected a memory leak that occurred in the TCP/IP client if the program toggled the connect line on the device when a connection failed.
- Fixed an extraneous error that arose when the webserver and SSL were both disabled.
- Fixed the NVRAM autocompaction to where it failed to account for the file being overwritten.
- Improved security when writing to flash.
- CTP disconnect messages appear in the console when restarting the program with a gateway connection that had automatic reconnection enable..
- Fixed a bug where data sent from a TCP/IP Client symbol on the rising edge of the Connect-FB was never transmitted.
- Fixed a bug where the Simpl+ FileOpen routine returned a positive error code when attempting to write to internal flash. This sometimes allowed the file to be written when writing to internal flash is not supported.
- Restarting the program is now properly blocked from an Ethernet slave processor.
- Fixed a master/slave bug that showed configuration pipe error messages on the slave when the master is reset.
- Corrected a problem for slave processors that lead to eventscheduler que error messages (the error message was "que deleted" which was correct, and not harmful, but annoying to see). This was sometimes seen when the master program was reset.
- Fixed a bug where the internal flash file system was not loaded if the NVRAM disk was found to be corrupted.
- Fixed a bug in reporting slave system states back to the master.
- Changed the file error codes to be more consistent with the code documented in the Simpl+ manual.
- Fixed a bug where a mismatch route symbol (if there was no E for C or C for E) was only reported on system reboot, but not on F10.
- Fix crash/reboot if the program was stopped and you hit the COM button on the front of the rack.
- Fix touchpanel chaining so that "unexpected packets" are no longer encountered (even though the chaining worked).
- If an Ethernet slave is not in the IP table but in the program, do not attempt to configure it. (You will not get the slave configuration timeout message).
- Add/move checks to be sure if a signal is actually an analog when packing up RCB's when signals change (not an update request). This fixes issues where analogs & digitals arrived in the same wave @ the CLW symbol and caused a SetSize() error on the console.
- Avoid sending UDP data when the DHCP address has been released.
- Fixed a crash when the processor received a CIP message from a device not in its IP table.
- Fixed a crash that occurred when two UDP devices were using the same port and the program was restarted.
- Fixed a bug where, if the master ever received a slave configuration timeout, if would never configure the device until the master was

rebooted.
- Eliminate the "No parent or driver for Slot-xx" message that was seen when
restarting a program that had a slave 2-series processor.
- Fixed buttons 25 and 32 to function correctly on the CNWP32 and the CNPI-48.
- Fixed crash when reporting invalid format in an SDPM symbol (Serial to
Indirect Text).
- Corrected a bug in generating a Certificate Signing Request (CSR) that
caused Thawte to reject our CSR.
- Fixed a bug that cause the error about "CheckForDisk: Not a file User" to
appear after several program loads or resets.
- Made changes to the new Simpl+ scheduling algorithm to improve simultaneous
multiple file access. Changes will be transparent for properly constructed
programs.
- Added commands COPYFILE & MOVEFILE.
- Modem Operations:
        - Send out modem init string to the serial console & wait 3
        seconds only if the modem init string is enabled (console commands that
        can change both).

        - Add the following commands that are ignored in even they come in from a
        modem connection: +++, ATDT, BUSY, CONNECTED, ERROR, NO (as in "NO
CARRIER"),
        OK. These are in addition to pre-existing RING command.

        - MODEMINITSTRING command to change the default modem init string that is
        sent out of the serial console port at startup. Defaults to "AT\r"

        - SENDMODEMINITSTRING command to turn on/off sending of the modem init
        string & subsequent delay at startup.

- Fixed a bug with the free commands (FREE, RAMFREE, HEAPFREE) where negative
number could be displayed.
- Suspend program will throw away serial data coming in (offline modes like
loading a touch panel).
- Real time cardID read added to "show boards"

Known issues:
- The C2VEQ-4 card does not work in slots 15 & 16 of a Rack2. The card needs
a modification at the factory for this to work. It does work in other slots
however.

Build: 3.117(Release)
Mar 24, 2004
- Fixed a bug in the real-time clock code that caused a deadlock when a DST
changed occurred.
- Corrected a problem with OSC/VOSC where if high or low time = 0, use 1 tick.
Prevents system from getting caught up in the logic process forever and having
an unresponsive console, etc.
- Fixed a crash that occurred using the Simpl+ FileDelete("*.*") from the root
directory.
- Corrected a problem where the Rack2 did not report having a LCD front panel
in the INFO command. That lead to Viewport not allowing the user to set the
front panel password.
- Exposed the following commands: SDEBUG, SHOWEXTRAERRORS, & USERPROGCMD.
- Fixed a bug where, even though a user password had been set up to protect
the web pages, the user was allowed to enter a blank password and get in if
the console (admin) password had not been set. However, the user names USER
and ADMIN are now MANDATORY when typing in the password in the browser dialog.
USER will access the program(eControl) pages and ADMIN will allow access to
the setup pages. User names are not case sensitive but passwords are.
- Fixed a problem where multiple SSL connections would cause a SW watchdog

timeout.
- Handled a problem where SSL would not work if the webserver was disabled.
- Now close active Ethernet TCP sockets on a LAN when the link layer is lost.
- Fixed the problem in which SSL redirection was not working properly if the SSLport was not set to the default (443) port. That is, if SSL port is set to "abc", and the webport is default, and SSL is on, then
"http://xxx.yyy.zzz.kkk" should be redirected as
"https://xxx.yyy.zzz.kkk:abc/index.html".
- Fixed a bug where the system would reboot if connected to a poll accelerator with a crossover cable and the poll accelerator was rebooted.
- Modified the ClientServer driver so that the connection task will be killed for Clients when the connect line is disabled. Handles a problem seen when a client is trying to reconnect and the connect line is toggled in the program This would lead to a condition where the state would alternate between connected and broken remotely.
- Fixed a problem with CIP devices using DHCP updating their IP addresses from behind routers.
- Reporting of Rx Overrun errors now needs the ShowExtra command set to ON.
- Fixed a bug where the system would bog down if hit with a browser and no web pages had been loaded.
- Corrected a problem with TCP Clients where the timeout for dead connections was exceedingly long. This occurred when the first data packet tranmitted happened some significant time after the connect.
- Now send the offline message to the Offline helper for gateway nodes when link is lost.
- Mark nodes that fail registration (no entry in IP table) as offline so that the offline helper will work.
- Changed the TCP client reconnection task to resolve the name on each connection attempt. This will help reconnect in a DHCP environment where the address changes and needs to be resolve after the DNS cache times out.
- Now close all active sockets when DHCP address is released.
- Modified the IP table display (IPTABLE) to include two new types "ESlav" & "EMstr" and two new status labels "DNS LOOKUP" & "BAD LOOKUP".
- Fixed a bug where if setting the password through the NAT setup pages failed, the wrong page was referenced and a 404 file not found message was displayed.
- Fixed a problem where, if the NVRAM Disk was corrupted, then the internal file system would not load. This would appear that the program was erased and the IP setting lost.
- Front Panel Percent Display Objects have been modified to round instead of truncate.
- Fixed XSig issue where the error "Signal Mismatch in Receive of Intersystem Communications" would be generated.
- Fixed a crash that occurred when a Pro2 front panel was displaying a page with a page join, multiple Ethernet consoles were open, and the program was reset.
- Long delays > 42950s will now work.
- Fixed a problem with the IR serial that was corrupted in some cases.
- Fixed a problem that was seen when a program contained a Slave system & the Front Panel symbol of the slave was destroyed, a message like "No Parent or Driver for Slot-09" (or whatever the Cresnet Slot was).
- Fixed a problem with Ramps where a negative transition below the min value would be seen as a large value. This fixes an issue seen with the Analog Ramp where when it was near 0%, it would sometimes jump to close to 100%.
- Fixed a problem when the RAM symbol where if you had Store=1, Recall=1, Select#1=1, that the RAM/DRAM would not work correctly if you had a different signal name on an input & output line. If the input and output signal were tied together, it would work fine.
- Fix issue with using Identify Transmitter in Viewport. As of 3.026, Identify Transmitter would not work unless there was at least one transmitter defined on the gateway (any ID). This will allow behavior as before 3.026 - load a program with only the gateway defined on the correct ID (or slot, like in an

MC2W and ID transmitter should work.
- Now handle overflows in the Serial Pacer.
- Made speed improvements for event scheduling (ramps and OSCs) in systems
with many Simpl+ modules.
- Fixed the DUPLE and UNDUPLE symbols.
- Fixed a problem with the Serial Demultiplexor Special (SMRX) symbol where
only the first decode worked.
- Fixed Poll Accelerator support so that CT1000 upload will work. REQUIRES
VERSION 3.105 OF THE POLL ACCELERATOR FIRMWARE.
- Fixed a bug in Simpl+ that occurred with multiple instances of the same
Simpl+ module where "0s" characters would appear in generated strings. The fix
now limits the length of a format specifier to 256 characters. If the format
specifier is too long, an error message will be generated.
- Fixed a problem with restarting programs where Wait Events were not being
terminated. (issue w/program with waits in waits - when stopprogram issued,
the wait was attempting to get WaitList semaphore, which couldn't be obtained
because of destruction, which caused a deadlock.)
- Support Stack checking for Simpl+ modules.
- If a bad time is passed to the system, all the time fields are placed in the
error message.
- Fixed a bug in restarting a program that caused TestManager to miss signals
at program startup when connected to the system via Ethernet.

Build: 3.088(Release)
Oct 10, 2003
- Full support for the C2VEQ-4 plug-in card.
- Fix issue if DHCP is on and IP Address of Lan A is 0.0.0.0, the status
of Lan B would be printed on doing an ESTATUS.
- Fix lockup issue if an Ethernet link is lost.
- Fix program termination issue (i.e. Hitting F10) if a Gateway node
is still active (i.e. you have a web page open to an IP ID that is in
the IP table & registered in the program, an e-Power App connection,
etc.) that would reboot the processor.
- Fix reporting of CTS status from 2 Series processors configured as slaves.
- Removed the warning that occurred during NVRAM auto-compaction. Only an error
is posted if the auto-compaction fails.
- Fixed an issue with the NAT configuration pages where after applying portmap
changes, the display does not show all the changes.
- Relaxed the Cresnet timing in the CLW dimmers to compensate for the dimmers
not conforming to specification.
- Modify SDLY so that its message would be seen by all consoles.
- Fixed a bug in where empty Zbus slots were reporting as unknown instead of
empty
- Fixed a problem with the NAT in which the addition of a portmap with ext
port LESS than int port worked, but failed to remove without error notice and
then the same port could not be added again.
- Fixed issues where webserver redirection was not correct.
- Changed trilist to allow serial strings that are permanent & empty to be
re-transmitted on an update request. Trilist affects many symbols - all
touchpanels & ethernet ISC are the biggest ones.
- Improved the Ethernet driver to detect and recover from conditions that could
disable the transmitter.
- Fixed a crash when an empty file spec was passed to the Simpl+ FileDelete()
function.
- Support for new Simpl+ function WaitForInitializationComplete(). This will
pause the processing in Main() until the logic has been complete initialized.
(The 1 logic solution is complete.) This will require SIMPL Windows
v2.05.06 or later.
- Fixed a crash seen with program file names that exceeded 124 characters on
the internal flash. The name is now clipped to 124 and the file is
ignored. The net result is that the program is not loaded and an error

message is generated.
- Fixed a problem with the AnalogIncrement so that on mute, if the Feedback input was defined, it reads the value to restore from that signal (for when it unmutes), otherwise, read the value to save from the output signal.
- Handle software watchdog timeouts when connecting via SSL.
- Removed DHCP release/renew information from the EEPROM command.
- Added SSL mode to ESTATUS command.
- Added code to force an immediate DHCP retry if new link is established on Lan A and the DHCP failed. This handles the case where DHCP was enabled and the LAN A cable was unplugged. Previously, the processor waited 15 minutes before retrying to get a DHCP address.

Build: 3.080(Release)
August 15, 2003
- Fix webserver issue when accessing a web page via the WAN address of a C2ENET-2 card when the 2 Series system was behind a router. This issue was introduced in 3.061.
- Fix issue with the "function main()" of SIMPL+ modules not being terminated on a Program Reset (F10 or SW R button). These issues would cause messages such as "Warning: Module -48-247 : S2_EventSch_v1_2 at line 1039: digital input", and potentially a system reboot.
- Fix CLW modules so that if no "level-out" signal is defined, the system will not crash.
- Fix PresetV so that a cut will not cause the PresetV output to first go to the opposite extreme from which it was fading, then to the proper extreme (i.e. fade from 0% to 100% If you did a cut at 50%, it would go to 0% then to 100%)
- Fix issue where the system time/date would get corrupted or generate "Bad Time/Date" messages or generate "DST Helper" errors with the Clock Driver symbol. Specifically, the time/date could get corrupted if you had a Clock Driver symbol in your program with DST set to 1d or greater.
- Fix so errors about packet type 1C are not generated through D3 Pro when using Real Time mode to control a circuit.
- Fix SIMPL+ error message that said "digital input" to say "No digital input signal defined at {position} on symbol wrapper"
- CLX/CLW lighting device interface symbols now clip and issue an error if the fade time exceeds (approximately) 46.6 hours.
- Fixed a problem displaying the Ethernet status in a dual port card when the LAN A was disabled. Also, only display speed and duplex settings if the link is valid.
- Fixed a bug introduced in 3.061 where TCP client devices did not show up as such in the IP table display.
- Added code to prevent a deadlock situation (processor appears to hang) when the watchdog resets the processor.
- Increased the delay after initializing the PHY to fixed speed/duplex settings (not AUTONEG).
- Put in code to handle a race condition on closing connections that caused the system to freeze when hit with a port scan.
- Changed the IP table display to show the programmed port values for TCP clients and TCP servers.
- Fixed a problem with the RouteE and RouteC symbols that resulted in 3.061 from trying to handle mismatched list sizes that ended up making all lists on both E's and C's have to be identical in size.
- Correct issue where an empty string would not propagate through the route symbols correctly unless a "Make String Permenant" symbol was tied to the destination string.
- Added support for new TCP2UDP messages to deal with authenticating gateway (activeCNX or webpage) connections. Use of this will require an upgrade to the eControl applications. The authentication only occurs when SSL is enabled.
- Fixed a bug introduced in 3.061 that caused the system to reboot if the NAT

was enabled and an IP packet was received.

Build: 3.061(Release)
July 21, 2003
- SSL now implemented for the console port and the web port.
- Support for the new CLW dimming modules.
- Full support for the Network poll accelerator (NPA8).
- Corrected a problem with Test Manager where large programs would reset the
processor during the resync process.
- Modified the NVRAM disk to be more compatible with CF. Handle TRUNC, APPEND &
RDWR file open flags.
- Now return the contents of the root of compact flash when "\\CF0" is supplied
as a path for FindFirst.
- Fixed a bug with Simpl+ Wait statements where it would give an error message
"Could not retrieve TimerDone flag in WaitEventTask" during normal operation
in heavy system load.
- Fixed a problem in the task scheduler that lead to Simpl+ event timeouts.
- Fixed a bug that allowed both Ethernet devices to be set to the same subnet.
- Corrected problems with route symbols. Enhanced the route symbols
to handle mismatched list sizes.

Originally, C's and E's treated all the inputs as one group, and said First
signal on the ROUTEC input goes to the first signal on the ROUTEE output, etc.

Now, you don't have to have the exact same # of analogs, digitals, and serials
on the input of a ROUTEC and the output of a ROUTEE. It now bases it off of
position within the list, rather than absolute position, so the first analog in
the ROUTEC goes to the first analog output of the ROUTEE. The first serial in
the ROUTEC goes to the first serial output of the ROUTEE.

This also should fix the issue causing a system reboot when the list sizes were
mismatched.

Ex: If you define (on the input of a C):

        Digital input 1,2,4,5
        Analog input 3,4,7
        Serial input 6,8

        ...And on the output of an E:

        digital output 1,2
        analog output 3,4,7
        serial output 8

... And if you were to drive analog input 3 on the C, you will now get out the
value on analog output 3 of the E. Before it wouldn't work. It does now.
- Fixed the SM/ similar to CSym_M/ where input would trigger and output would
not go high.
- Changed the route symbols to fix problem where "Disconnect all E's from
current C" or "Disconnect all C's from current E" would not disconnect all
connections - it would sometimes take 2 hits (or more) to disconnect all.
- Removed a debug statement that would trigger if reset was high - M/ or RM/.
- Modified the XMODEM routines to be more robust. Fixed problems that
surfaces over slow/lossy Ethernet connections.
- Fixed a problem where IP table enteries were marked "UPD PEND" when they
full functional.
- Block serving user pages from a slave processor.
- Added code so that 2-series processors as Cresnet slaves will issue an update
request after exiting PassTo mode.
- Corrected CNETID command for slave mode: no reboot needed to change cnetID

from console.   Reboot still required if switching from slave to master or visa versa.
- Added code to the Sleep/Wake helper so that non-zero values will be reissued on update request (i.e. it should put the panel back to sleep if it was asleep).
- Revised update-request handling to allow propagation of the update request to helper symbols, and have a parent device automatically call child-device's UpdateRequest() function. Also removed SlaveReinitialize() function, as it is now handled by the UpdateRequest mechanism (CDev_MasterSlave used to interate thorugh the children; now it is handled by allowing UpdateRequest() to iterate through the children).
- Fixed a crash that occurred when using the ADDPORTMAP command without specifying the ip address.
- Memory pool for the Ethernet stack was increased for improved reliability.
- Fixes a problem receiving serial data while in slave mode.   C2-COMB/2, CNX-COM2, and CNX-TA cards were affected.
- Fixed a problem where an Ethernet slave that had a host name was not updated upon reboot.

Version 3.044 (Release)
May 16, 2003
- Complete support for DHCP for both Windows Server 2000 and Windows NT Server 4 environments. Implemented new commands DHCP, DOMAINNAME, TESTDNS, and WINS. Also, IP table entries can be referenced by name rather than IP address. Added new status entries to IP Table display: Update Pending to signify waiting for the acknowledgement of an UpdateIPAddress packet and NO_NETWORK if the address has been released. Added DHCP status information to ESTATUS command. Update NAT pages to include DHCP Rel/Renew button and the ability to add static DNS servers.
- Slave mode support for all 2-series processors.
- Full support for a NVRAM disk to provide compact flash functionality on systems that don't support CF. Limited in size to 64K or 128K. Added new Simpl+ function CheckForNVRAMDisk(). REQUIRES SIMPL WINDOWS 2.04.11 or greater to set up the disk and use the CheckForNVRAMDisk() function.
- Now show node type in IPTABLE command.
- Fixed a crash when "HELP WH*" was entered.
- Fixes a problem with the realtime clock that caused the CSym_ClockDriver symbol to sometimes get the wrong year which caused errors in the DST computation.
- New symbol types MinMax Clamp and Analog Increment with Seed
- Fix a rare case in the RMV and SMV symbols where if the timing was correct between the RMV expiring and the trigger coming in via another timed event, that the RMV would never retrigger (the output would stay low) even if the input were to go high again.
- Fixed a bug in Simpl+ where a string overflow in a string concatenation would lead to a continous 0s0s0s string.
- Now make CIP nodes as OFFLINE when the link is lost on the LAN they reside.
- Improved the Ethernet driver so that the internal memory packets would get allocated but never released. This was one cause of the problem with communication loss over high-collision Ethernet networks.
- Change to the Analog Increment, RampNV, Ramp, and Ramp w/ bounds symbols. REMOVE functionality of going to level of <MUTE> parameter at startup. A startup value for the output analog can be done by using an INIT triggered with a "1" jammed to the output analog.
- Change the Analog Increment symbols to check limits of the input signal before incrementing, i.e.:
        Say the limits are +200 to -800.
        If the input is -900, UP or DOWN will make the output go to -800.
        If the input is +300, UP or DOWN will make the output go to +200.
- New symbol & console command: USERPROGCMD quotedargument
goes together with the "User Program Commands" symbol.   This symbol has a

single output. The contents of the quotedargument are processed for escape
sequence (i.e. \x25, \n, etc.), and the leading and trailing quotes are
stripped off, and the final string value is sent to the symbol output. If
there are multiple "User Program Commands" symbols, each will receive the
string from the USERPROGCMD command. This requires library update 206 or
later in SIMPL Windows.
 - Fixed a bug in the startup of logic where where a CONSOLE symbol was
triggered during startup (tied to a "1") and the prompt at the end of
initialization went to that CONSOLE symbol instead of the console that issued
the program restart.
- Fixed a console bug to handle the situation where the user types an incorrect
command but it matches another due to the min match feature (i.e. "HELPME"
could get "HELP").
- Handle the case in closing an active socket where the semaphore was deleted
because someone else got there first. Fixes the case where the error message
"Could not obtain the close semaphore to the socket. (-48)"
- Modified PING command to allow names.
- Corrected the help prompts for REMMASTER and ADDSLAVE commands.
- Added a wait for the Simpl+ main loop to start in the Initialize function of
each Simpl+ module. This is to avoid "Timeout waiting for Simpl+ event to
start" errors that were seen at program startup.
- Protect MasterList with a semaphore. Fix a crash that occurred when REMS
was used at the command line with a registered node.
- Modified command parsing to give more informative error messages when a
particular command is blocked.
- Now include the command entered in the "Bad or Incomplete Command" message.
- Give a more informative error message when unable to open a server socket.
- Fix for the PRESETV for the following case:
       1. Scene selected
       2. Jam an output with an RCB
       3. Scene select (same one)
       The outputs that weren't jammed will cut to their final values, the output
       that was jammed will start a new fade. Prior to this, the outputs all
       cutted and the jammed output cut to the final value of the jammed RCB.
- Fix for the RAMPNV, When creating the RCB at startup to go to the last value,
only use last 16b of what was stored in NVRAM - otherwise potentially it could
look like a wrapping condition on the signal (i..e goes to 65535, wraps to 0
and increases again), or it could even look like it was decreasing.
- Fix for the lighting scaler, if input is at 0 and an RCB is launched to go to
0 (such as if the input is from a RAMP and DOWN is hit), the output will no
longer go to the MIN level, then to 0. Now it just goes to 0.
- Fix for regular ramp/rampNV so that when MUTE is driven high, the output
analog goes to 0 (after 3.023 firmware)
- Handle trailing backslashes in path names.
- Change the TCP/IP client to only delay for 0.1 seconds before trying to
connect. This should fix the Audio Request module.
- Changed the RESTORE command to automatically reboot to take effect. It now
deletes the SIMPL program and web pages on internal flash and clears the IP
table.
- Corrected a problem where the ISDIR command would return TRUE for "\CF0" and
"\NVRAM" even though there was no compact flash or NVRAM disk in the system
- Fixed a bug in the DNS commands where the settings were not saved in EEPROM
- Now report address conflicts detected with REPORTCRESNET as "[id]   Error:
bad packet" string"
- Fix range checking for Ramp with limits (-32768 to 32767 or 0 to 65535)
- Fixed a Lighting module crash that could occur with 0s ramping processes
going to a lighting module.
- Fixed a problem with the MBUFFER. RCB's on GAIN and an input at the same
time now produce an RCB on the output (better for driving lighting modules).
- Changed the RING2 so that setting the SEED to 0 will now drop all outputs
low. A subsequent trigger of the CLOCK will cause the ring to act like it
does after the program initializes for the first time (i.e. clock w/reverse
low = first output goes high. clock w/reverse high = last output goes high).

- Fixed problems with lightng modules not always correctly getting 0s RCBs.
- Fixed SELFTEST where "SELFTEST SLOT x" did not work from an Ethernet console.
- Now bypass reading the IP table if program is bypassed.
- Now log disconnects of Ethernet consoles with SHOWEXTRA.
- Fixed a bug where CIP nodes where marked for DNS lookup erroneously.
- Fixed a bug in the ABUFFER: If the ramping process on the input is of
short enough duration, a lighting module attached to the output of the ABUFFER
(or further down the line from the ABUFFER) may not see any transition - i.e.
no activity on the light. This is very evident with a 0s preset but it can
happen otherwise. Quick button presses of a ramp typically do not look like a
problem, however, if something like a ramp is very near it's endpoing when the
ramping process is activated, and the natural endpoint would occur during the
duration of the button press, you would see no transition. Also fixed when
a ramping process is terminated (such as lifting your finger from a ramp - NOT
the ramp naturally halting when it hits an endpoint) on the input of the
abuffer, sometimes the output ramping process is not killed and the lighting
module may not stop it's fade.
- Corrected the PRESET/PRESET2/PRESETV: Cuts are now fixed (hitting the
same preset for a second time should go to the final value in 0s time).
- Fixed a problem with the CNX-RMC, CNX-RMCLV: There were issues with no IR
or the wrong IR being emitted under certain circumstances, such as driver
configurations like:
AAC
AC
(i.e skipping ports and doubling up on ports with skips in between)
- Fixed issue with ABUFFER, SBUFFER, MBUFFER, MBUFFER2 where if a ramping
process was on an input (i.e. from a RAMP, PRESET, PRESETV, etc.) and the
output was tied to "0", the system would crash.
- Fixed the WEBPORT to handle the user entering a 0. Generate an error
message.
- Fixed a problem with SMEM symbol where NVRAM would be overwritten. Evident
with multiple SMEM symbols.
- Corrected a problem with the ARAM symbol where STORE & RECALL were high and
a select changed - this now will recall the value in specified select for
generation X compatibility. Fixed issue where symbol would recall values in
given select on the negative edge of RECALL as well as the positive edge.

Version 3.030 (Release)
Feb. 7, 2003
- Fixed a problem in the PAC2 where the LED for LAN B and ACT B did not work
in selftest.

Version 3.029 (Release)
Jan 30, 2003
- Full support for PAC2, lighting and D3 Pro.
- Touch settable IDs now fully supported.
- Removed the printing of comport errors directly to the console.
- Added error codes from the Simpl+ wrapper for SendMail.
- Corrected a bug with the TCP/IP Client Device where it would not always
reconnect properly. Also added a 0.5 second delay before the client
reconnects so that the CONNECT line could be dropped. This helps the
situation when connecting to a server that disconnects automatically.
- Moved the logging of connects and disconnects for Client and Server devices
under the control of the SHOWEXTRA command. That is, the connects/disconnects
will only appear in the error log is SHOWEXTRA is enabled.
- Fixed a bug where Simpl+ functions PauseWait()/ResumeWait() would restart the
wait timer from 0 instead of when it was paused.
- SIMPL+: IsSignalDefined() works properly for 0's placed on digital inputs and
outputs.
- Added new command (TELNETPORT) to enable/disable the Telnet port. The
default is enabled.

- Improved the status report (IPTABLE) for IP table nodes, especially gateway nodes, clients and servers.
- IP table is now stored in DIP style format. Older viewports will still work up to the time that a newer Viewport (3.32 or greater) is used to store the IP table. Then the old sytle file will be deleted. In other words, the iptables from older Viewports will work until an newer Viewport is used. After that, an older Viewport will not be able to read the new style format and think that there is no IP table.
- Removed error if TCP socket is broken during write. Handles the case where the Viewport cycled the connection during a program restart.
- Log connections to Console in SHOWEXTRA.
- Corrected a problem in the Keyboard scan converter where sending "A" through "Z" was not holding down SHIFT prior to sending the character, so it would only act as if it were "a" through "z". This is now fixed.
- Correct issues to do with lighting fades going to certain levels and then jumping to the terminal level. This fix also affected the abuffer, sbuffer, mbuffer, mbuffer2, and lscaler symbols. ramp, rampnv, preset, preset2, integral, and slew where also affect for general ramping operations revisions.
- Improved support for compact flash including the Lexar brand.
- Corrected a memory leak using StartFileOperations()/EndFileOperations from Simpl+. This was shown in the EventScheduler for Lighting when after about a week of running, the error "CheckForDisk: Could not open drive C:" would appear.
- New symbols: Analog Scaler w/Overflow Handling w/o Zero Pass, Analog Ramp (Bounds Limited), Analog Scaler with I/O Limits, Log with Limits, AntiLog with Limits, and Analog Increment
- Suppress errors about "Unexpected Packets" if an RF Mouse happens to be at the same RF ID as a 1 Way Transmitter in a program
- Modified Sendmail() Simpl+ function so that if the message length exceeds 998 chracters, the e-mail component automatically adds a <CRLF> at the end. However, this causes long messages with existing <CRLF> to appear as if a <CRLF> was added in the middle of a line. Fixed this by locating the last <CRLF> if any, in a line of message exceeding 998 chars, and adjusting the subsequent message to point AFTER the <CRLF>.
- Firmware is now compressed to reduce size.
- Fixed a problem with the Preset sybmol an output signal that is tied to 0 would cause a crash.
- Fixed a error in Compact flash where the system would crash if CFAUTORUN is enabled, no program loaded and the compact flash is extracted.
- Fixed a race condition in logic that could lead to the system generating false memory allocation errors.
- Correct a crash that was exhibited by having an Analog Slew which tried to go from 65535 to 65535 (delta of 0). (simple to replectate w/ RAMP into a SLEW go all the way to 65535 then try to hit UP again.)
- Fix HSW4 from crashing at Initialize time and during update requests if all the override signals weren't filled in.
- Allow data to go into device's input queue when cresnet starts polling, rather than wait till init is complete. (i.e. data from devices that send data @ startup like ST-CS weren't always getting into the program)
- Fix issue on XSIGs where RX$ was processed incorrectly if digital/analog/serial packets were broken up in specific ways when it was received (i.e. serial: only first byte received; it would have worked if first 2 were received). The incorrect processing could lead to erroneous "Signal type mismatch" errors on receive.
- Corrected a problem in the front panel where button releases were being lost across page flips.
- For the front panel, the \ character is turned into the / character for all instances. All non printable characters are turned into spaces, not just the tab character.
- Corrected a crash if "NATENALE ON" command was issued when the Lan B port was not active.
- The console symbol now issues output in chunks of 255 characters, in case the console's response is > 255. This happened when trying to do PROGCOMMENTS

through the console symbol, it's output is > 255 and got chopped off.
- Corrected a problem where relays were missing short pulses.
- Fix crash where RF Gateway was defined in program with no transmitters
defined & a packet was received.
- Fixed a problem where files written to compact flash would not truncate
properly. That is, if a smaller file of the same name was sent, the old data
would be left at the end of the file.
- Fixed a problem when trying to search a directory that does not exist from
Simpl+ routines.
- Fixed a crash when a Simpl+ Wait Event expires while trying to start the same
event.

Version 3.015 (Release)
Nov 08, 2002
- Sending an email message from Simpl+ with the SendMail() function call now
supported. Unauthenticated and "Clear Text" login authentication is
supported.
- eControl 2 now supported with the external (software) gateway and the
internal gateway of 2-series processor. (REQUIRES AN UPGRADE TO THE SOFTWARE
GATEWAY)
- Fixed bug in "Analog Scaling Buffer" and "Analog Scaling Buffer
about 50%" that would lead to the output continuously ramping even if the
input ramping function had stopped.
- Fixed a condition in the logic processor that lead to a symbol queue overflow.
- Improved handling of Ethernet devices coming back online.
- Modified Cresnet timing to avoid overrunning the ST-VC
device. This corrected a problem where mute messages to the ST-VC were lost.
- Soft reset symbol (RESET1) will now function correctly.
- Now issues a stop on when the IR queue overflows. Only on the new 2-series
 type IR devices.
- Fixed a bug with the initialization strings for CPC-CAMs on an Update Request.
- Fixed memory leak caused by the STRINGIO symbol when a RX$ was defined and
there were no match (output) terms defined. Activity on RX$ would cause
memory loss under this condition.
- Modified how files stored on the internal flash were served. This fixes a
problem that arose with IE6 w/ SP1 and serving web pages from a 2-series
processor.
- Fixed a problem handling high number of IR packets to a room box/tvav.
There is now a limit of 64 functions that can be queued (realistically, 32
start + 32 stop). The "IR Queue overflow" message is now issued if the limit
is exceeded. The previous contents of the queue are dumped and the new
function goes into the queue.
- Change to allow SBUFFER symbol to propagate analog values ALWAYS even if
the value has not changed (X Gen compatability).
- Fixed a bug where a Simpl+ event could be triggered before the module is
fully initialized. This would lead to a "Could not send signal to event
handler" error message.
- On the XSIG symbol, Remove "Invalid Signal Number" error messages. This was
confusing because an XSIG can receive an out-of-bounds signal number when
offsets are used. Since the message can cause confusion, it was taken out.
(i.e. a serial signal going to an XSIG with offset 0, an XSIG with offset 100,
etc... signal 105 causes an ùerrorù on the offset 0, but not on the second)
- Also on XSIG, Fix analog encoding (only potentially showed up for signal #
> 127 on the XSIG or if the offset is big enough to make the signal # greater
than 127). Fix bug with Option==1 & Option==2 where if a transition for the
same signal was present more than once on the RX$, it would cause ùCannot
Solve Logic within 1000 wavesù error. This does NOT affect Option==0.
PostProcessing was messed up (was adding the RX$ to the intermediate$ causing
an ever-growing string to be processed).
- Fix for all TVAV derivatives: CN-TVAV, CEN-TVAV, CNX-RMC, CNX-RMCLV where
the wrong IR code would go out, sometimes causing the IR port on the box to

lock high or not work. This could ONLY happen if you had multiple drivers stacked on ports. An assumption was made that Port=Child Index 0, B=1, etc. If you have multiple drivers, this no longer makes sense. NOTE: Future revision needed to handle index '0' returned from GetParamIntegerValue() [maybe return -1 or something?]; however the first fix will prevent the 2nd from happening.
- Adjusted Cresnet Driver to elminate "RX error -50".
- Added a progress indication for program destruction ("Termination Cleanup") and also for loading symbols ("Loading").
- Fixed a memory allocation bug that would lead to a slow down of the system
- Added additional checks to the NAT portmap configurations. Check for the same external port mapped to two different places.
- Corrected a problem with the NAT configuration pages where the reboot button was not actually rebooting the system
- Modified Cresnet passto timing to handle the TPS2000 reentering passto after reboot.
- Added additional error messages to the logic processor.
- Corrected a crash in the Event scheduler when an event expires and gets deleted by the symbol at the same time. (i.e. trigger a DELAY & resetting it could cause this)
- Fixed a crash when selecting passthrough to a non-existent cards (i.e. wrong slot number).
- Added a check to make sure that the port selected in the VEBPORT command has not be remapped by the NAT.
- CNX-COM2 cards firmware upgrades now supported.
- Corrected a problem with Simpl+ WAIT statements that would use up memory and eventually reboot the processor.
- Prevent "clear all" from being transmitted to CEN-TVAV/CN-TVAV/CNX-RMC/ CNX-RMCLV when the system receives an update request from such a device. This resolves an issue, specifically with the CNX-RMC having all of it's video inputs disabled when an update request was performed.
- Support for Analog Min/Max symbol. Requires SIMPL Windows Library Update 180 or later.
- Fix Analog Buffer & Serial Buffer so that the output ramping process stops when the enable is driven low & there is a ramping process on the respective input.
- Fix CEN-TVAV/CN-TVAV versiports & current sense. They now correctly register HIGH when 1-4 is shorted or power is sensed on the outlet, and low otherwise.
- Changed the firmware name reported for the C2Y-COM3 card to C2COM3 for consistancy with the product name.
- Compact flash file system now handles deleting long file names.
- Fix operation of Serial Pacer symbol so that if a string comes into the symbol while it is currently pacing out data, it no longer causes garbled output or never-ending output.
- Fixed problem with "\r" as the last character of a field causing text like "#1," to show up on thedisplay of the touch panel.
- Cresnet devices now accessible for CEN-TVAV (slave mode) and CEN-CN.
- Lighting support including Analog Comparisons (Full Set), Multiple Preset, CLX-xDIMx, CLX-1MC4, CLX-4HSW. SIMPL Windows Library update 180 or later is required to use these symbols.
- Fixed a problem with CNX_IO16 driver where the card would not respond.
- Fixed Memory Interlock so that CLEAR isn't needed. Also, all outputs are mandatory now.
- Fixed analog signal encoding on XSIG so that values > 16383 are properly encoded.
- Improved NetAnalyze performance when more than 8 devices on the network.
- Handled a crash where the password verification failed for Ethernet consoles. Only 3 password attempts are allowed now (down from 4).
- Corrected a problem with older CNWM10A panels where the panels would continuouly reboot. This change is across all CNWM type panels.
- Added support for the Selective Clear-all for TPS touchpanels.
- Fixed the web server to handle excessively long URLs used in web attacks. Changes made to the webserv code to make it more robust.

- Added feature to allow logging of webserver connections to the error log.
- Now print the program boot directory at program startup and when
PROGCOMMENTS (F7) command is used.
- Correct problem in routing symbol where if no serial list was defined, an
attempt to write the connection string would actually try to write it to the
first digital output, which could sometimes make it look like the IN-USE flag
was high when it shouldn't be.
- Fixed a bug where offline Ethernet devices were registered as online.
- Now display the status of CF error logging in EEPROM
- Changed XPUT so that compact flash files will have the correct date/time.
- Generate error messages into error log when file transfers fail.
- Commas now allowed in the file names.
- Fixed CFTRANS so that all files on the compact flash project directory can be
copied to internal flash.
- Added extra debugging information at when the systems reboots to be printed
out the serial port. Added a command NVRAMREBOOT to enable writing
theses debug messages to NVRAM during a system reboot.
- Now block Multicast Ethernet packets.
- Implemented a "keep-alive" system for CIP devices which interrogates
inactive CIP devices every 30 seconds.
- Added the AUTONEGOT command to the Ethernet help menu.
- Added commands ADDDNS, REMDNS, and LISTDNS to support DNS lookup for mail
servers.
- Better handling of remote connects for TCP Client/Server devices.
- Added an additional status message for the IP table listing. "NOT REG"
indicates that the node is in the IP table but not in the current program
- No longer log any errors with the Console serial port (uart 2 framing
errors, break detected, etc.)
- Now handle spaces in URLs on compact flash.
- Added commands ADDSLAVE and REMSLAVE to handle adding slave/peer entries to
the IP table.
**** NOTE **** ADDMASTER/REMMASTER to only add and remove master entries to
Ethernet slave devices.

Version 2.004 (Release)
- Fixed a problem writing large files to compact flash.
- The packet helper now functions correctly.

Version 2.003 (Release)
May 28, 2002
- Fixed a problem when a control system (DVP4) was not the first device to be
registered.

Version 2.002 (Release)
May 24, 2002
- Added command CFLOGERR to enable logging of errors to CF.
- Corrected the help text for SHOWPORTMAP.
- Now suspend and resume Logic processor on CFTRANS.
- Fixed a bug introduced in version 2.000 and CFAUTORUN now works correctly.
It also now handles web pages.
- Fixed a bug where the ERR light was lit without an error in the error log.

Version 2.001 (Release)
May 23, 2002
- Now supports slaving a DVP4.

- Fixed a problem with ther route symbols where If the user tried to disconnect all from a given C (or E) that didn't exist, the system would crash.
- NAT remote config now does not need a reboot to take effect.
- Hitting the HELP button on the NAT configuration pages does not require a reboot.
- After 3 failure on login for the NAT pages, the 403 forbidden message is sent back to the browser.
- Cleaned up the interface for the NAT configuration pages so that it will not affect any active console.
- Modified the Xmodem receive for Compact Flash to eliminate the Xmodem padding.
- Corrected a problem with Cresnet discovery.
- Corrected problem where Ethernet parameters were not getting saved in RestoreFactoryDefaults.
- Systems with 1 Ethernet port now display status of only that port.
- Expose HOSTNAME, NATENABLE and NATREMOTE in the Ethernet help menu.
- Removed XGETFILE & XPUTFILE from main help menu.
- Free command now indicates which flash (compact or internal) that it is showing stats for.
- Increased the max. file size for the TYPE command to 20K
- Fixed a problem with FindNext giving a erroneous error message.
- Added user verification for the RESTORE command.
- Now clear the NAT portmap upon RestoreFactoryDefaults.

Version 2.000 (Release)
May 16, 2002
- Removed the Domain Name from the NAT configuration pages.
- Added a command SHOWPORTMAP to display the NAT portmaps.
- Temporarily removed the SMTP_Send_Mail routine.
- Added command KILLSOCKET to cancel a TCP console session.
- Temporarily disable the CNETID command from changing the net ID so that slave mode would not be supported in this build.
- Changed the allowable connection on Telnet and CTP to 2.
- Display a warning if another console is openned on the same port.
- Changed the WHO command to indicate which console the user is using.

Version 1.019 (Release)
May 10, 2002

FEATURES / FIXES

***Since Version 1.018 (Release)
-Network Address Translator (NAT) now fully functional for 16 port mappings.
-Compact Flash now supported. Simpl+ file access will require Simpl Windows 2.02.06.
-Fixed a bug where a CIP node was reset when overrun with data and some data was lost.
-Improved communications with CNX_TA card.
-Corrected an bug in reading the Ethernet status. Now displays correct Link status, speed and duplex.
-Corrected a problem with the Memory Interlock symbol.
-Corrected a problem with the Ramp symbol when it was close to 100% and up was hit then release. The value would jump to 0. Now the value will clip at the boundaries.
-Changed the autonegotiation command (AUTONEG) to allow specification of the duplex parameter.
-Improved overrun handling in the Ethernet driver.
-More messages appear on the screen during Firmware upgrades.
-Added a WHO command to print the active consoles and gateway connections.

-Now generate a notice in the error log when a Client/Server device connection status changes.
- Fixed a bug where Gateway connections were retained through program reset.

***Since Version 1.017 (Release)
-Corrected a low-level problem where the internal operating system lists were corrupted and caused the system to hang-up. Problem only manifested itself under heavy Cresnet or Ethernet traffic while using Simpl+ PULSE() statements.
-Improved the UPLOAD command.
-Improved the handling of bus timeouts and spurious interrupts.
-Improved handling of off-line devices. Once a device is considered offline, the system will not try to send it any more data. This will eliminate the error messages when writing to a device that is off line.
-Added a better error message for IR queue overflow.
-Handle zeros(0) on the output of the XSIG symbol.
-Fixed a crash that occurred when closing a socket that was never openned.
-Fixed a front panel problem where temporary messages would not go away.
-Modified the TVAV driver to ignore type 04 packets.
-Improved handling for unknown/unexpected packets.
-In the broadcast symbol, fix offset-by-1 problem (field 1 was being sent as field 2, etc...)
-Improved support for the CNX-TA card.
-CIP devices are now sent the CIP resync flag upon update request.
-Fix lighting symbol packet output when non-RCB analogs and RCB analogs are mixed in the same wave on the inputs.
-Added new command WHO to display the active Ethernet connections.
-Improved Simpl+ tasks management.
-Generate a registration error if no IP entry for a TCP client or server device.
-Changed TCP ClientServer driver to only send serial data if a connection is made.
-Fixed a crash when closing a TCP Client symbol both remotely and locally.
-Now handle the RING response from the console modem as a special command.
-Suppress extra error messages if a CIP device is offline.
-Added routine to print all the instances of a Simpl+ module.
-Added a new error message if instantiation of the Simpl+ instance fail because of NVRAM allocation.
-Changed Signal_s structure to past last modified array index to the event handler. This will handle the case when multiple elements of a Simpl+ input array are triggered at the same time. GetLastModifiedArrayIndex will now report the correct signal. (REQUIRES AN UPDATED VERSION OF INCLUDE.DAT FROM SIMPL WINDOWS).

***Since Version 1.016 (Release)
-Fix problem with the Poll Manager Device Extender where the poll-inhibit did not work properly. (Still will not work for the CPC-CAM. Requires a change to SIMPL Windows)
-Fix problem where packets intended for the internal cresnet driver were being put on the wire when sent from an NTX symbol

***Since Version 1.015 (Release)
-Modified the Ethernet driver to handle high traffic systems better.
-Adjusted the priority of the web server to be more consistent with other tasks.

***Since Version 1.014 (Release)
-Fix problem where a CEN-COM would not not communicate properly after the control system reboots
-Prevent crash when a TCP/IP Client or Server device does not have an IP Table entry associated with it
-In SIMPL+, prevent possibility of events being triggered before the main() function has a chance to run

***Since Version 1.013 (Release)
-Remove delay between characters for one-way serial out of an IR port (introduced in 1.012)

***Since Version 1.012 (Release)
-Fix problem introduced in v1.012 where the net button on the front panel would
never report any devices
-Fix timing issues when transferring firmware to devices with smaller processors
-Fix problem where the CNXIO-16 card could cause bus timeout errors
-Improved error handling so that once a cresnet or ethernet device goes offline,
errors won't be generated trying to transmit to that device until it comes back
online
-Improved handling of Update Request messages from devices to prevent system
slowdown when network errors exist (e.g. when two devices have the same cresnet ID
and an ST-IO or CNX-PAD8 is on the network)
-Improve error message for IR queue overflow.
-Increase IR queue so that a minimum of 32 commands can be sent at a time to any IR
port
-Fix problem detecting a multi-code IR function in a driver if the function did not
have the default minimum repeats
-Fix problem where system could lock-up on reboot or program reset if the program
took more than 5 seconds to load from flash. This effected programs where the .bin
file exceeded 850 KBytes.
-Fix lock-up that could occur if the connect line on a TCP/IP Client/Server symbol
is dropped low before the connection occurs.
-Add short delay between sending IR functions on the same IR port when those
functions were triggered at the same time in logic. This is to be compatable with
previous generation control systems.
-In the Intersystem Communications symbol, do not report a signal mismatch error if
a serial or analog output is tied to the '0' signal.
-When debugging serial signals, only show the first 256 bytes of the string in Test
Manager. This prevents the display of the "TxConsoleData: Error writing to
Tx2Pipe." error message that would occur if a longer string was sent.
-When reporting an error message that a cresnet packet is too big to be transmitted,
only show the first 20 bytes of the packet.
-In SIMPL+, make sure that the main() funtion runs before any event runs-Improve
detection of a corrupt file system at startup

***Since Version 1.011 (Release)
-Improved handling of IR overflow
-Fix timing problems with CNRFGWA (This appeared as an ST-IO that would frequently
send Update Requests when a CNRFGWA was on the cresnet network connected through a
CNXHUB)
-Fix problem with Memory Interlock symbol where the clear input had to have a signal
attached to it (it wasn't being treated as optional)
-Fix problem with TPS-RF panels where the outputs of the symbol would be cleared
when the panel issued an update request
-Fix problem where if Compact Flash was inserted and the current program had a 1
tied to a front panel page jump, the front panel would be left showing the "Compact
Flash Initialized" message on reboot.

***Since Version 1.010 (Release)
-Fix problem where if a SIMPL+ module is adding over 100 signal transitions where
one or more signals have multiple transitions within its initial timeslice, the
logic processor could get into a deadlock situation
-Modified certain error messages from Simpl+ to only be warnings instead of errors.
-Modified KILLPROGRAM to just delete the program from flash and not stop it. Use
STOPPROGRAM to stop the program after erasing it.
-In SIMPL+, changed the level of error messages for invalid signal index and string
overflows to WARNING.
-Changed the error level for console break detection to NOTICE.
-Add IR test to SELFTEST in CP2/CP2E

***Since Version 1.009 (Release)
-Fix problems with Ethernet Virtual Com Port device
-Fix crash that resulted from pressing a button on the RF mouse when no signal is

defined for that button on the RF Mouse definition in the program
-Fix problem where RTS and break signals on CNX-COM2 card would have no effect
-Fix problem with the WEBPORT command where the port would appear to change but the Web Server would not listen on the new port
-In PresetV, don't create ramping analog on output until the end of the current logic solution. This handles the case where a Preset digital arrives in an earlier logic wave than the Level values. This is done for compatibility with older generation control systems.

***Since Version 1.008 (Release)
-Fix problem with "Analog Sample" (Speedkey: SAMPLE) symbol where it required the [sample_change] input to be filled in, even though it is marked as optional.
-Fix RS-422 and RS-485 problems on internal COM ports and plug-in COM cards
-Fix problem with Web Server where to access the Web Server through a router the URL needed to contain the file name. For example: http://myrack.com/main.html would work while http://myrack.com would not.
-Fix problem loading firmware to a CNMK-2

***Since Version 1.001 (Release)
-Fix problem where control system would lock up when serving a web file that exceeded 100k
-Fix potential lock-up with an oscillator if the gate goes low at the exact time the oscillator's high time or low time expires
-Generate a notice when an ethernet device comes online and a warning when it goes offline
-Switch front panel back to main menu on a program load, program reset or an erase program
-Fix lock-up problem when an IP address other than 127.0.0.1 was assigned in the IP table for ActiveCNX or WEB page interfaces
-Fix problems using Ethernet Intersystem Communications devices to talk between 2-Series Control Systems
-On program reset, all analogs and digitals will be reset on the front panel.
-Fix problem on program reset where built-in I/O ports would report an erroneous momentary closure on some inputs.
-Fix problem with sending IR to TVAV and CNXRMC/CNXRMCLV boxes
-Fix problem with Erase Program (Program would stop but files were not deleted)
-In CNXVTC-3 card, fix problem where mute line was working in reverse. (i.e. digital low would mute)
-Fix problem where CTS was not reported properly for internal COM ports C-F
-In Analog Buffer, only propogate analog changes if the input signal and output signal have different values (This is to be compatable with previous generation Control Systems)
-When running Test Manager with the option "Trace Only Signals in Status Window", make sure debug flags remain set after a program reset
-Changed the file system startup so that bypass program mode will now cause the system to validate the file system before loading it. This will allow the ethernet console to
still be opened if a program is bypassed.
-Fix crash on program reset that occured if there were no devices in the program that could be analyzed using the com analyzer (e.g. no COM ports defined in the program)
-Fix potential problem with Analog Ramp when the time parameter exceeded 655 seconds
-Fix problem in Analog to Indirect Text symbol where the indirect text field was being offset by one (e.g. specifying a field of 8 would actually send indirect text to field 9)
-Fix problem with all Analog Buffers where if a ramping symbol (e.g. Analog Ramp, Preset, etc.) is jammed to it's output and a non-ramping symbol is attached to it's input the ramping operation on the output would be cancelled when a transition cam in on it's input.
-Fix crash that would occur if a COM or IR card had no ports defined below it.
-Use a more accurate estimate for string lengths in Simpl+ makestrings when printing out integer values. Previously the string would have to be large enough to store the largest possible integer now the string only needs to be large enough to store

the current integer value.
- In Serial RAM, make dial output go low after any of the select inputs go low
- Fix problem with Non Volatile Ramp where the value would always go to 100% on program start
- On program initialize, delay start of ramping operations until all symbols have been initialized
- During program initialization, make dots ('.') appear when connected to the control system via ethernet
- Fix problems with CNX-TA card
- File system compaction now suspends the program before compaction and then resumes the program after it is done.
- More improvements to TPS passto
- Fix problem with MKB where if the result should be negative it would show as 65535 instead
- Fix Potential lockup with over 200 delays triggered at the same time and expiring at the same time
- Fix STRFGVX lockup when an empty string is sent to an indirect text field on an STX-1550C.
- Fix Problem where an error is reported if the 1 or 0 signals are routed to analog or serial inputs or outputs on a SIMPL+ module
- Prevent Erroneous messages from being reported from Device Extenders.
- Fix problem where the "PANEL" butoon on the PRO2 Main Menu would not appear after a program transfer if the program contained SIMPL+.
- Fix problem when clearing the error log from the front panel where if user front panel pages existed, the first user page would appear after releasing the "YES" button to confirm deletion of the error log
- Fix Problem where an oscillator with a high time and low time of 1d or .01s will cause the system to appear sluggish
- Fix problem where after running selftest, allocation errors would be reported while restarting the program
- Fix Problem in SIMPL+ reading back analog output values
- Change the format of the error log
- Fix problem where if the output of a ramping symbol (ramp, slew, preset, etc.) was tied to the output of an Analog Buffer, the ramping operation would be stopped when the enable of the Analog Buffer went low
- Fix problem where SIMPL+ instance name was appearing as garbage when errors were printed from SIMPL+ modules
- Handle putting error messages from remote devices (e.g. Framing error from ST-COM) into the error log
- Fix problem where the ST-COM would not work properly until its power was cycled
- Fix problem with odd parity on internal COM ports A and B
- Fixed problem where refreshing web pages with no IP table entry would crash the system
- Fix problem where transferring files to a TPS panel while some other cresnet devices were on the network (e.g. LC-1000, CT-1000) could cause the transfer to fail
- Fix problems transferring files to a CNX-TA card when connected to the control system via TCP/IP.
- Fix problem with clearing error log
- Added a check for NULL destination pointers in Simpl+ makestring calls.